UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/894,378 | 06/29/2001 | Richard Henry Dee | 2001-021-TAP | 5547 |

7590 12/08/2005

Wayne P. Bailey
Storage Technology Corporation
One StorageTek Drive
Louisville, CO 80028-4309

| EXAMINER | |
|---|---|
| CASTRO, ANGEL A | |
| ART UNIT | PAPER NUMBER |
| 2653 | |

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov



**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 09/894,378
Filing Date: June 29, 2001
Appellant(s): DEE, RICHARD HENRY

James O. Skarsten
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed May 21, 2004 appealing from the Office action mailed 2/10/04.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 6,134,078 | SUZUKI | 10-2000 |
| 5,493,467 | CAIN et al. | 2-1996 |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 3-7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (U.S. Pat. 6,134,078) in view of Cain et al (U.S. Pat. 5,493,467).

Regarding claims 3 and 10, Suzuki discloses a sensor apparatus (figure 1), comprising:

a first sensor 16;

a second sensor 15; and

at least one flux guide 13, wherein a flux generated by the at least one flux guide is shared between the first sensor and the second sensor to thereby reduce a sensitivity of the sensor apparatus (column 1, lines 27-28).

Regarding claims 4 and 11, it is inherent in the reference that by sharing the flux between the first sensor and the second sensor it reduces a flux injection efficiency of the sensor apparatus.

Regarding claims 5 and 12, Suzuki discloses that the at least one flux guide includes a top flux guide 13 and a bottom flux guide 12.

Regarding claims 6 and 13, Suzuki discloses that the top flux guide 13 is positioned between the first sensor 16 and the second sensor 15, and the bottom flux guide 12 is positioned nearest a side of the second sensor that is furthest away from the first sensor.

Regarding claims 7 and 14, Suzuki discloses that the second sensor is positioned on the planars (the planars in this particular case would be the layer between sensor 15 and flux guide 12, column 3, lines 17-20).

Suzuki does not specifically disclose that the MR sensors are spin valve sensors. Cain et al discloses a yoke spin valve MR read head (figure 3). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to provide the reduced sensitivity sensor apparatus of Suzuki with the spin valve sensors as taught by Cain et al.

The rationale is as follows: Cain et al utilize a spin valve sensor in the yoke type read head with the purpose of taking advantage that the magnetoresistance is not dependent on the relative direction of the sense current. One of ordinary skill in the art would have been motivated to provide the reduced sensitivity sensor apparatus of Suzuki with the spin valve sensors as taught by Cain et al as it would eliminate the dependency on the direction of the sense current.

**(10) Response to Argument**

Appellant asserts in page 4:

"Suzuki refers to MR sensors, while the present invention refers to spin valve sensors. Cain also refers to spin valve sensors. Because MR sensors and spin valve sensors have order of magnitude difference insensitivities, it would not be obvious to combine Suzuki and Cain to form the present invention."

The Examiner respectfully would like to point out that a magnetoresistive (MR) sensor can be any sensor that utilizes a change in resistance caused by a change in magnetic field to sense that field, which may be measured as a change in current or voltage across the sensor, including anisotropic magnetoresistive (AMR) sensors, spin valve (SV) sensors, spin tunneling (ST) sensors, giant magnetoresistive (GMR) sensors and colossal magnetoresistive (CMR) sensors. From the above, Applicant's comparison between MR sensors and spin valve sensors are incorrect. It is also noted that the spin valve sensors are well known in the art since 1992 (see patent No. 5,159,513 to Dieny et al).

Appellant asserts in page 7:

"Neither device teaches a reduced sensitivity spin valve sensor. Suzuki teaches a full sensitivity MR sensor, while Cain teaches a full sensitivity spin valve sensor. Combining the two would not produce a reduced sensitivity spin valve sensor as claimed."

The Examiner respectfully points out that Suzuki shows that the prior art (conventional MR head) in figure 1 has a reduced sensitivity compared to his invention (see column 3, lines 24-30).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Angel Castro, Ph.D.

Conferees:

William R. Korzuch SPE

Wayne R. Young SPE